

in this area are exploited for lime preparation and ornamental / decorative purposes. In view of good abundance of molluscs during the present limited work, further survey(s) are likely to bring to light more species that have not so far been recorded from this region and understand the biodiversity better.

ACKNOWLEDGEMENTS

We are grateful to Scientist-in-charge and

Sri. A. Mahapatra of Estuarine Biological Centre, Zoological Survey of India, for support and offering valuable suggestions during the survey. Thanks are also due to the Scientists and Co-fellows of the Wood Biodegradation Centre (Marine), Institute of Wood Science and Technology, Visakhapatnam, for their encouragement and help. Special thanks are extended to Dr. K.V. Surya Rao, Scientist (Retired), Zoological Survey of India, for invaluable support in specimen identification.

REFERENCES

- GOSNER, K.L. (1971): Guide to identification of marine and estuarine invertebrates. John Wiley and Sons, Inc. USA: 693 pp.
- MOOKHERJEE, H.P. (1985): Contribution to the Molluscan fauna of India, Part III. Marine molluscs of the Coromandel coast, Palk Bay and Gulf of Mannar - Gastropoda: Mesogastropoda (Part-2). *Rec. zool. Surv. India, Occ. Pap.* 75: 93 pp., xvi pls.
- PRESTON, H.B. (1910): Descriptions of five new species of marine shells from the Bay of Bengal. *Rec. Indian Mus.* 5:117-121.
- RAMA RAO, K.V., C.A. NAGESWAR RAO, S.C. NAHAR, D.V. RAO & A. MAHAPATRA (1992): Studies of the ecology and fauna of Rushikulya estuary (Ganjam), Orissa. *In: Estuarine Ecosystem Series 1: 7-26.* Zoological Survey of India.
- SUBBA RAO, N.V. (1968): Report on a collection of wood boring molluscs from Mahanadi estuary, Orissa, India. Pp. 85-93. Proceedings of the Symposium on Mollusca - 1. Mar. Biol. Asso. India.
- SUBBA RAO, N.V. (2003): Indian Seashells (Part-1): Polyplacophora and Gastropoda. *Rec. zool. Surv. India, Occ. Pap.* 192: i-x, 1-416.
- SUBBA RAO, N.V. & A. DEY (1986): Contribution to the knowledge of Indian marine molluscs. 2. Family Donicidae. *Rec. zool. Surv. India, Occ. Pap.* 91: 30 pp., 4 pls.
- SUBBA RAO, N.V. & H.P. MOOKHERJEE (1975): On a collection of Mollusca from the Mahanadi estuary, Orissa. Pp. 165-176. *In: Recent Researches in Estuarine Biology* (Ed.: R. Natarajan). Hindustan Publications, New Delhi.
- SUBBA RAO, N.V. & K.V. SURYA RAO (1993): Contribution to the Knowledge of Indian marine Molluscs, Part 3. Family: Muricidae. *Rec. zool. Surv. India, Occ. Pap.* 153: 133 pp., 14 pls.
- SUBBA RAO, N.V., A. DEY & S. BARUA (1992): Estuarine and marine molluscs. *In: Fauna of West Bengal. State Fauna Series 3(9): 129-268.* Zoological Survey of India.
- SUBBA RAO, N.V., K.V. SURYA RAO & R.N. MANNA (1995): Mollusca. *In: Fauna of Chilika Lake. Wetland Ecosystem Series 1: 391-468.* Zoological Survey of India.
- SUBBA RAO, N.V., K.V. SURYA RAO & S. MAITRA (1991): Marine Molluscs. *In: Fauna of Orissa. State Fauna Series 1(3): 1-175.* Zoological Survey of India.
- SURYA RAO, K.V. & S. MAITRA (1998): Mollusca. *In: Fauna of Mahanadi estuary, Estuarine Ecosystem Series 3: 161-197.* Zoological Survey of India.

14. *CROTALARIA ANGULATA* MILLER AND *TAXILLUS BRACTEATUS* (WALL.) TIEGHEM – NEW RECORDS TO THE FLORA OF ORISSA

C. SUDHAKAR REDDY^{1,3}, CHIRANJIBI PATTANAIK^{1,4} AND A.K. BISWAL²

¹Forestry & Ecology Division, National Remote Sensing Centre, ISRO, Hyderabad 500 625, Andhra Pradesh, India.

²Department of Botany, North Orissa University, Baripada 757 003, Orissa, India. Email: anilkbiswal@yahoo.com

³Email: csreddy_nrsa@rediffmail.com

⁴Email: jilu2000@rediffmail.com

Introduction

In the course of phytosociological studies of Similipal Biosphere Reserve, Mayurbhanj district, Orissa, India, we collected specimens of two interesting species. After critical examination (Gamble and Fischer 1915-1936) and examining the specimens deposited at Linnaean Herbarium (S-LINN), Swedish Museum of Natural History (Anon 2002) and Central National Herbarium (CAL), Kolkata, they were identified as *Crotalaria angulata* Miller (Papilionaceae) and *Taxillus bracteatus* (Wall.) Tieghem. (Loranthaceae). They are not mentioned in the flora of Orissa (Saxena and Brahmam 1996; Mishra *et al.* 1999), and are first time records from here.

Crotalaria angulata Miller (Papilionaceae)

Crotalaria angulata Miller, Gard. Dict. ed.8. no.9. 1768. *Astragalus biflorus* L. Mant. Pl. 273. 1771. *Crotalaria biflora* (L.) L. Mant. Pl. 570. 1771: FBI 2: 66. 1876; Gamble 1: 292 (206) 1918.

Prostrate herb. Branchlets hispid. Leaves simple, ovate. 1.0-1.6 x 0.4-1.0 cm, base and apex obtuse, margin entire. Racemes lateral, 2-flowered. Corolla exerted, yellow. Pod subglobose, 1.0 x 0.8 cm, stiff-hispid, twice as long as calyx. Seeds 8-10.

Habitat: Rare, in fringes of Sal dominated moist deciduous forests (elevation: 800 m).

Fl. & Fr.: August-February.

Specimen Examined: Orissa: Mayurbhanj district, Aski: 14.ii.2005, CSR 1991 (North Orissa Univ. Herbarium).

***Taxillus bracteatus* (Wall.) Tieghem. (Loranthaceae)**

Taxillus bracteatus (Wall.) Tieghem, Bul. Soc. Bot. France 42: 256.1895. *Loranthus bracteatus* Heyne ex Wall. in Roxb. Fl. Ind. 2: 220.1824. FBI 5: 213.1886; Gamble 2: 1252(876).1925.

Parasitic, evergreen herb; branchlets tawny tomentose. Leaves orbicular, 1.5-4.0 x 1.5-4.0 cm, 3 or 5 nerved from base, pilose pubescent, base rounded to cuneate. Flowers in axillary fascicles, yellow, scarlet red inside, 1 cm across.

Habitat: Rare, partial stem parasite on *Kydia calycina* on savannah hill tops (elevation: above 1,000 m)

Fl. & Fr.: October-March.

Specimen Examined: Orissa: Mayurbhanj district, Meghasani hill: 12.ii.2005, CSR 1916 (North Orissa University Herbarium).

Note: It differs from *Taxillus cuneatus* (Roth.) Dancer in presence of orbicular leaves and tomentose plant parts and flowers, in case of latter leaves are obovate-spatulate, plant parts and flowers are glabrous at maturity.

ACKNOWLEDGEMENTS

We are thankful to Dr. P.S. Roy, Deputy Director (RS & GIS, Application area), Dr. M.S.R. Murthy, Head, Forestry & Ecology Division, National Remote Sensing Centre, Hyderabad and Dr. U.B. Mohapatra, Head, Department of Botany, North Orissa University, Baripada for their valuable suggestions and encouragement.

REFERENCES

ANON. (2002): Linnaean Herbarium, Swedish Museum of Natural History (<http://Linnaeus.nrm.se/botany/fbo>).
GAMBLE, J.S. & C.E.C. FISCHER (1915-1936): The Flora of the Presidency of Madras, Reprinted Edition (1957), Vol. 1-3, Botanical Survey of India, Calcutta.

MISHRA, M.K., S.S. DASH & P.K. DAS (1999): Additions to the Flora of Orissa. *Rheedea* 9(2): 163-172.
SAXENA, H.O. & M. BRAHMAM (1996): The Flora of Orissa, Vol. I-IV, Orissa Forest Development Corporation. Bhubaneswar. 2468 pp.

15. *HEDYCHIUM FLAVESCENS* CAREY EX ROSCOE – AN ADDITION TO THE FLORA OF MAHARASHTRA STATE

NILESH V. MALPURE^{1,2} AND S.R. YADAV^{1,3}

¹Department of Botany, Shivaji University, Kolhapur 416 004, Maharashtra, India.

²Email: nmalpure@rediffmail.com

³Email: sryadavdu@rediffmail.com

Hedychium flavescens Carey ex Roscoe (Family: Zingiberaceae) was recently collected from Tillari region in Kolhapur district of Maharashtra state, and this is the first report of its occurrence in Maharashtra. The species was so far reported from southern parts of India (Sabu 2006). The genus *Hedychium* in Maharashtra is now represented by three species, namely *H. coronarium* Koen., *H. flavescens* Carey ex Roscoe and *H. flavum* Roxb. The identity of *H. flavum* Roxb. is uncertain (Sharma *et al.* 1996). In the present paper, the nomenclature of the species along with a note are given for easy identification.

Hedychium flavescens Carey ex Roscoe, Monandr. t. 50. 1825; Wight, Icon. Pl. Indiae Orient. t. 2008 & 2009. 1853; C.E.C. Fisch. in Gamble, Fl. Pres. Madras 8: 1485. 1928; K.G. Bhat, Fl. Udupi 631. 2003; M. Sabu, Zingiberaceae & Costaceae of South India 199. 2006. *H. coronarium* var. *flavescens* (Roscoe) Baker in Hook. f., Fl. Brit. India 6: 226. 1892.

Specimen Examined: Maharashtra: Kolhapur, Tillari. 05.ix.2006. Malpure 7 (Shivaji University Herbarium).

Note: The species prefers to grow along streams in evergreen forests at high altitude. The major threat to the species is the alteration of habitat and clearing of the forest for cultivation. The species is now cultivated in the Botanic Garden of the Department of Botany, Shivaji University, Kolhapur. The propagules of the species are also distributed for cultivation in home gardens, which can be an efficient practice for conservation of rare wild ornamental plants.

ACKNOWLEDGEMENTS

We are grateful to the Head, Shivaji University, Kolhapur, for providing facilities and to the Department of Biotechnology, New Delhi, for financial assistance.

REFERENCES

SABU, M. (2006): Zingiberaceae and Costaceae of South India. IAAT, Department of Botany, Calicut University, Kerala.
SHARMA, B.D., S. KARTHIKEYAN & N.P. SINGH (1996): Flora of Maharashtra State: Monocotyledons. Botanical Survey of India, Kolkata.